REMARKS

In this response, no claims have been amended or canceled, and new claims 112-118 have been added. Thus, claims 1-118 are now pending. The Office Action issued by the Examiner has been carefully considered by Applicant.

Withdrawal of Premature Final Action

Applicant appreciates the telephone conference with the Examiner of today in which the Examiner agreed to withdraw the final status of the current office action and send a supplementary action to such effect.

Claim Rejections

Claims 1-3, 11-12, 14, 16, 18, 21, 28-30, 32, 33, 36, 42-47, 50-53, 55-61, 80-83, 92, and 94-111 have been rejected under 35 U.S.C. 103(a) as being anticipated by Clare et al. (USPN 6,414,955) (hereinafter Clare) in view of lyengar et al. ("Information Routing and Reliability Issues in Distributed Sensor Networks" IEEE, 1992) (Hereinafter lyengar).

The Examiner has newly presented Iyengar as a secondary reference in this new obviousness grounds of rejection. The Examiner states that Iyengar discloses a distributed sensor network which distributes data to be processed by other data processing units. It should be noted that Applicant's independent claim 1 recites that "data processing . . . is distributed through the sensor network . . . in response to the node information" and that "node information includ[es] node resource cost and message priority."

Iyengar describes a distributed sensor network and mentions, but only from a most general view, that processing can be distributed (p. 3012, col. 2, first and third full paragraphs). Iyengar further states that each sensor "communicates to some or all other nodes in the network" (p. 3013, col. 1, first paragraph), and that it is important to design efficient ways to route the information in the network (Id.). However, Iyengar teaches away from Applicant's claim 1 in that Iyengar only describes a method for routing information to other nodes within a "maximum allowable time". (p. 3013, col. 2, first paragraph). Iyengar does not teach or suggest that data processing is distributed in reponse to "node resource cost" or "message priority". Further, as the Examiner has previously agreed, Clare does not teach distributed data processing of any type (other than for topology learning) and cannot supply the omissions of Iyengar.

More specifically, Iyengar states that the scope of his paper is limited to "how to communicate" with respect to communication delay in a network and network reliability (p. 3013, col. 2, third paragraph). Iyengar goes on to provide several detailed algorithms for determining network delay (p. 3013, col. 2, fourth paragraph). Iyengar further states that "the sensors generate data repetitively at regular intervals. It is therefore essential to ensure that each datum is delivered to the destination node in finite time, before the data of the next cycle arrived at the node. Hence there is an <u>upper bound on the maximum allowable transmission time</u> in the network." (emphasis added) (p. 3015, first partial paragraph).

Iyengar's presents many algorithms for determining network delay that are associated with this transmission time (see *Distributed Diameter Finding Algorithms* at p. 3015, col. 2, last paragraph, to p. 3018, col. 1, third paragraph). These algorithms relate to delay, but do not teach or suggest the <u>prioritization</u> of a message transmission. Message priority requires that at least one message have priority over another. Iyengar does not teach distributing any processing in response to message priority. Iyengar only teaches

how to manage the delay that may be encountered in message transmission (regardless of whether it is of high or low priority).

Further, nothing is taught or suggested by Iyengar about node resource cost. Thus, the communication within the network described by Iyengar would not be considered by one of ordinary skill in the art to teach or suggest any communication that occurs in response to "node resource cost" or "message priority" information. Instead, Iyengar teaches away from these factors and solely towards the calculation of transmission delays in a network.

Iyengar's discussion of network reliability is also limited to its impact on network transmission delay. For example, Iyengar states that "a node/link failure can increase the diameter of the graph, thus increasing the end-to-end delay in the network." (emphasis added) (p. 3018, col. 1, last full paragraph). Thus, Iyengar teaches away from any transmission in response to "message priority" and instead teaches towards management of transmission delay.

In addition, Applicant's independent claim 101 recites that "code and data anticipated for future use are predistributed through the sensor network using low priority messages." The Examiner has stated that Clare does not disclose distributing code and data anticipated for future use through the sensor network using low priority messages. Iyengar similarly does not teach this. Indeed, the Examiner relies upon another reference, Davis, in a later rejection of claim 101 below, which supports that Clare and Iyengar alone in this current rejection are inadequate to present a prima facie case to reject claim 101.

Applicant's independent claim 103 recites that "the at least one node controls data processing and data transmission in response to a decision probability of a detected event." With regard to the rejection of claim 28, which has similar language, the Examiner references Clare (col. 15: lines 10-15) as teaching the foregoing recitation of claim 103. However, this section of Clare only describes the starting of certain processing on nodes in

the network, such as sensing of activity in the environment or implementing instructions from a user (col. 15: lines 12-24). Clare does not teach or suggest a probability of a detected event, or the controlling of data processing and data transmission in response to this probability. Further, Iyengar does not teach response to a decision probability of a detected event. Therefore, claim 103 is believed allowable for this reason.

Applicant's independent claim 106 recites that "the plurality of network elements are self-assembled into a multi-cluster network, wherein a start node is selected as a base node, and wherein the base node communicates an assembly packet throughout the network" (emphasis added). Clare does not teach or even suggest self-assembly of a wireless network wherein a base node communicates an assembly packet throughout the network as recited by Applicant. Further, Iyengar does not teach such an assembly packet. Claim 106 is believed allowable for at least this reason.

Claims 4-10, 13, 17, 19, 25, 38-41, 48-49, 62-79, 84-85 and 90 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-lyengar in view of Myer et al. (USPN 6,615,088) (hereinafter Myer).

Applicant's independent claim 63 recites that "data processing . . . is distributed in the sensor network in response to the node information." Myer does not supply the missing teachings of Iyengar. Therefore, Applicant believes claim 63 is allowable for the reasons discussed above with respect to claim 1.

Applicant's independent claim 84 recites that "a plurality of levels of synchronization are supported among different subsets of the plurality of network elements" (emphasis added). As the Examiner states, Clare and Iyengar do not disclose such supporting a plurality of levels of synchronization.

The Examiner argues that Myer teaches "levels of synchronization" and that this phrase should be given broad interpretation. Specifically, the Examiner argues that Myer

shows polling of devices with differing polling periods. However, the above recitation of claim 84 requires that these levels of synchronization are "supported among different subsets" of the network elements. The mere fact of varying time periods of polling does not teach or suggest supporting synchronization among different subsets. "Subsets" here cannot be shown merely by varying time periods. In order to make a prima facie case, it is necessary to show some nexus between various subsets of network elements and synchronization. This is not shown by Myer. Instead, Myer only teaches that controller 36 is managing communications with several devices controlled by controller 36 and that the communications conflicts are prevented due to polling by controller 36. There is no suggestion that synchronization among subsets of devices is supported.

Applicant's independent claim 85 recites that "data is transferred using message packets, and wherein the message packets are aggregated into compact forms in the at least one node." **The Examiner states that Clare and Iyengar do not disclose aggregating data processed in a plurality of nodes for further processing by other nodes.** The Examiner refers to the same section of Myer describing polling as discussed above for claim 84. Myer does not teach or suggest any aggregation of message packets into compact forms by its description of polling. Instead, Myer merely describes obtaining the status of several devices—compacting or aggregation of this status information is not discussed by Myer. Therefore, claims 84 and 85 are believed allowable.

Claims 15, 54, 101, and 102 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-Iyengar in view of Davis et al. (USPN 5,742,829) (hereinafter Davis).

Applicant's claims 15 and 54 each depend, directly or indirectly, from independent claim 1, and are believed allowable for the reasons discussed above.

Applicant's independent claim 101 recites that "code and data anticipated for future use are predistributed through the sensor network using low priority messages." The

Examiner has stated that Clare does not disclose distributing code and data anticipated for future use through the sensor network using low priority messages. The Examiner argues that Davis discloses a network that distributes code and data in the background. However, Davis is solely focused on the automatic installation of software (e.g., providing of updates for new versions of an installed program) (see col. 2: lines 31).

Applicant's claim 101 recites "data anticipated for future use." But Davis does not discuss the predistributing of any data, and further does not suggest distributing "data anticipated for future use" since the sole focus and motivation of Davis is to ensure that software code is kept up-to-date. Further, Davis does not discuss a network coupled among a "monitored or controlled environment", so any data distributed would not correspond to future use in this type of network. Therefore, claim 101 is believed allowable.

Claims 19, 20, and 31 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-lyengar in view of Makansi et al. (US 2002/0154631) (hereinafter Makansi).

Applicant's claims 19, 20, and 31 each depend, directly or indirectly, from independent claim 1, and are believed allowable for the reasons discussed above. Makansi does not provide the missing teachings of Clare-Iyengar discussed above.

Claims 9, 22-24, 27, and 37 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clare-lyengar in view of Humpleman et al. (USPN 6,546,419) (hereinafter Humpleman).

Applicant's claims 9, 22-24, 27 and 37 each depend, directly or indirectly, from independent claim 1, and are believed allowable for the reasons discussed above. Humpleman does not provide the missing teachings of Clare-Iyengar discussed above.

Applicant has added new claims 112-118. Applicant's new independent claim 112 recites that "data processing on the collected data is distributed through the sensor network . . . in response to the information regarding message priority" and is believed allowable for the reasons discussed above for Applicant's independent claim 1.

Applicant's dependent claims not explicitly discussed above each depend, directly or indirectly, from Applicant's independent claims discussed earlier, and are believed allowable for the reasons previously discussed with respect to these independent claims.

In view of the above, Applicant respectfully requests reconsideration of this application and the allowance of all pending claims. It is respectfully submitted that the Examiner's rejections have been successfully traversed and that the application is now in order for allowance. Applicant believes that the Examiner's other arguments not discussed above are moot in light of the above arguments, but reserves the later right to address these arguments. Accordingly, reconsideration of the application and allowance thereof is courteously solicited.

Respectfully submitted,

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